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Sheet 1 of 3

Form PTO-1449
(modified 2/91)U.S. DEPT OF COMMERCE
Patent and Trademark OfficeDocket:
883933.0067Serial No.:
09/934,088

INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)

Applicant:
Roberto A. GaxiolaFiling Date:
08/20/01Group art area:
1638For:
Methods For Imparting Desirable Phenotypic Traits,
Including Drought, Freeze and High Salt Tolerance and
Methods for Increasing Seed Production

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U.S. PATENT DOCUMENTS

Examiner Initial	Patent number	Date	Name	Class		Filing date if appropriate
MM	5,100,792	03/31/92	Sanford et al	435	470	
MM	4,945,050	07/31/90	Sanford et al	435	470	

FOREIGN PATENT DOCUMENTS

	Document Number	Date	Country	Class	Subclass	Translation

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

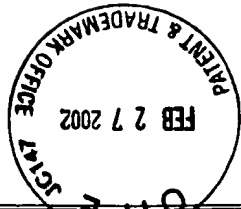
MM	Jens Lerchl, et al., Molecular Cloning, Characterization And Expression Analysis Of Isoforms Encoding Tonoplast-Bound Proton-Translocating Inorganic Pyrophosphatase In Tobacco; <i>Plant Molecular Biology</i> 29 (1995); pp. 833-840. ~
	Y. Kim, et al., Isolation and characterization of cDNAs Encoding the Vacuolar H ⁺ -Phrophosphatas of <i>Beta vulgaris</i> ; <i>Plant Physiol.</i> (1994); pp. 375-382, Vol. 106 ~
	R. G. Zhen, et al., The Molecular and Biochemical Basis of Pyrophosphate-Energized Proton Translocation at the Vacuolar Membrane; <i>Advances in Botanical Research, The Plant Vacuole</i> , Vol. 25, Academic Press (1997); pp. 298-337 ~
	J. P. Gogarten, et al., The Use of Antisense mRNA to Inhibit the Tonoplast H ⁺ ATPase in Carrot; <i>The Plant Cell</i> , Vol 4, (1992); pp. 851-864 ~
	H. Sze, et al., Energization of Plant Cell Membranes by H ⁺ -Pumping ATPases: Regulation and Biosynthesis; <i>The Plant Cell</i> , Vol. 11, (April 1999); pp. 677-689 ~
	R. A. Leigh, Solute Composition of Vacuoles, <i>Advances in Botanical Research, The Plant Vacuole</i> , Vol. 25, Academic Press (1997); pp. 171-194 ~
	R. Töpfer, et al., A Set of Plant Expression Vectors for Transcriptional and Translational Fusions; <i>Nucleic Acids Research</i> , Vol. 15, No. 14 (1987); p. 5890 ~
MM	M. E. Galway, et al., Growth and Ultrastructure of <i>Arabidopsis</i> Root Hairs: The <i>rhd3</i> Mutation Alters Vacuole Enlargement And Tip Growth; <i>Planta</i> 201 (1997); pp. 209-218 ~

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	A. S. Gupta, et al., Maintenance of Photosynthesis at Low Leaf Water Potential in Wheat; <i>Plant Physiol.</i> 89 (1989); pp. 1358-1365 ~
	P. A. Rea, et al., Tonoplast Adenosine Triphosphatase and Inorganic Pyrophosphatase; <i>Methods in Plant Biochemistry</i> , Vol. 3, Academic Press (1997); pp. 385-405 ~
	J. M. Davies, The Bioenergetics of Vacuolar H ⁺ Pumps, <i>Advances in Botanical Research, The Plant Vacuole</i> , Vol. 25, Academic Press (1997); pp. 340-363 ~
	Q. Al-Awqati, Chloride Channels of Intracellular Organelles; <i>Current Opinion in Cell Biology</i> , (1995); pp. 504-508, Vol. 7 ~
	K. D. Hirschi, et al., CAX1, an H ⁺ /Ca ²⁺ Antiporter From Arabidopsis, <i>Proc. Natl. Acad. Sci. USA</i> Vol. 93, (1996), pp. 8782-8786 ~
	X. S. Xie et al., Isolation and Reconstitution of the Chloride Transporter of Clathrin-coated Vesicles, <i>J. Biol. Chem.</i> , Vol. 264, No. 32, Nov. 15, 1989, pp. 18870-18873 ~
	M. A. Apse, et al., Salt Tolerance Conferred by Overexpression of a Vacuolar Na ⁺ /H ⁺ Antiport in Arabidopsis, <i>Science</i> , Vol. 285, 20 August 1995; pp. 1256-1258 ~
	J. M. Davies, Vacuolar Energization: Pumps, Shunts And Stress, <i>Journal of Experimental Botany</i> , Vol. 48, No. 308, March 1997, pp. 633-641 ~
↓	E. Ballesteros, et al., Na ⁺ /H ⁺ Antiport Activity in Tonoplast Vesicles Isolated From Sunflower Roots induced by NaCl Stress, <i>Physiologia Plantarum</i> , Vol. 99, (1997) pp. 328-334 ~
	T. Rausch et al., Salt Stress Responses Of Higher Plants: The Role of Proton Pumps and Na ⁺ /H ⁺ Antiporters. <i>J. Plant Physiol.</i> , Vol. 148 (1996) pp. 425-433.-

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	R. Serrano et al., Microbial Models and Salt Stress Tolerance in Plants, <i>Critical Reviews in Plant Sciences</i> , Vol. 13, No. 2, (1994), pp. 121-138 ~
	E. J. Kim et al., Heterologous Expression of Plant Vacuolar Pyrophosphatase In Yeast Demonstrates Sufficiency Of The Substrate-Binding Subunit For Proton Transport, <i>Proc. Natl. Acad. Sci. USA</i> , Vol. 91, June 1994, pp. 6128-6132 ~
	P. Hajdukiewicz et al. The Small, Versatile pPZP family of <i>Agrobacterium</i> Binary Vectors for Plant Transformation, <i>Plant Molecular Biology</i> 25 (1994), pp. 989-994 ~
	J. Schiefelbein et al., Pollen Tube and Root-Hair Tip Growth is Disrupted in a Mutant of <i>Arabidopsis thaliana</i> , <i>Plant Physiol.</i> (1993), pp. 979-985, Vol. 103 ~
	K. Schumaker et al., A Ca ²⁺ /H ⁺ Antiport System Driven by the Proton Electrochemical Gradient of a Tonoplast H ⁺ -ATPase from Oat Roots, <i>Plant Physiol.</i> (1985), pp. 1111-1117, Vol. 79 ~
	R. Gaxiola et al., Drought- And Salt-Tolerant Plants Result From Overexpression Of The AVP1 H ⁺ -Pump, <i>Proc. Natl. Acad. Sci. USA</i> , 25 Sept. 2001, Vol. 98, No. 20, pp. 11444-11449 ~
	V. Sarafian et al., Molecular Cloning and Sequence of cDNA Encoding The Pyrophosphate-energized Vacuolar Membrane Proton Pump of <i>Arabidopsis Thaliana</i> , <i>Proc. Natl. Acad. Sci. USA</i> , Vol. 89, March 1992, pp. 1775-1779 ~
	R. Gaxiola et al., The <i>Arabidopsis thaliana</i> Proton Transporters, AtNhx1 and Avp1, Can Function In Cation Detoxification In Yeast, <i>Proc. Natl. Acad. Sci. USA</i> , Vol. 96, Feb 1999, pp. 1480-1485 ~

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	M. Stitt, Pyrophosphate as an Energy Donor in the Cytosol of Plant Cells: an Enigmatic Alternative to ATP, <i>Bot. Acta</i> <u>111</u> (1998) 167-175

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